Organic Agricultural Chemistry (*The Chemistry of Plants and Animals*). A text-book of general agricultural chemistry or elementary bio-chemistry for use in colleges. By JOSEPH SCUDDER CHAMBERLAIN, Ph.D., Professor of Organic and Agricultural Chemistry in the Massachusetts Agricultural College. New York, The Macmillan Company, 1916. 319 pages.

In following out certain modern ideas that science can be applied from the beginning and not lose any of its scientific value, this text comes as a distinct change from the usual books on the subject of organic and agricultural chemistry. It starts in with a brief description of systematic organic chemistry, but keeps in mind all the time that the compounds described have an agricultural value. Then follows a section on physiological chemistry dealing first with animals and then with plants. Finally there is a section on crops, foods and feeding which presents "the chemical basis for the valuation of animal foods but without entering into the discussion of the practical operation and results of animal feeding."

The following are the chapter headings: Section I. *Systematic.* Chapter I. Hydrocarbons; II. Substitution Products of the Hydrocarbons; III. Oxidation Products of Alcohols; IV. Derivatives of Alcohols and Acids; V. Mixed Compounds; VI. Amino-Acids, Proteins, Urea, Uric Acid; VII. Carbohydrates. Section II. *Physiological.* Chapter VIII. Enzymes and Enzymatic Action; IX. Composition of Plants and Animals; X. The Living Cell and Its Food; XI. Animal Food and Nutrition; Digestion and Absorption; XII. Animal Food and Nutrition; Metabolism; XIII. Milk, Blood and Urine; XIV. Plant Physiology. Section III. *Crops, Foods and Feeding.* Chapter XV. Occurrence and Uses of Important Constituents in Agricultural Plants; XVI. Occurrence and Uses of Important Constituents in Agricultural Plants (Continued); XVII. Animal Foods and Feeding.

One criticism to be made is of the statement occurring now and then that certain processes can not be explained here, or that it is unnecessary to give the proof for some reaction. In an elementary text it is not wise to make such statements. It is far better to give as many of the facts as are desirable or necessary for the case in point and make no apologies. Another fault to be found is that there are no illustrations. All texts should be generously illustrated with good pictures if the average student is to make the best use of the book.

The idea of using only those compounds occurring in a study of agricultural chemistry is well worked out, and the student is carried rapidly from simple to complex forms without any loss of time and without any loss of the unity or coordination of systematic organic chemistry. This section shows very well how such a subject can be practically applied without losing any of the pure science. In the section on physiological chemistry the action of enzymes and the chemistry of the cell are made very plain. Crops are discussed briefly but efficiently, and the question of nutrition treated with just enough detail to acquaint the student with the underlying principles.

The book is well printed and neatly bound. It is a volume to be recommended to those who desire a condensed treatment of biochemistry, being thoroughly scientific and yet practical and interesting.

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THE UNITED STATES GEOLOGICAL SURVEY MAPS

THE thirty-seventh annual report of the U. S. Geological Survey states that the project of covering the 3,000,000 square miles of the United States with accurate topographic surveys was definitely adopted by the federal government in 1882, and the work is even now less than half completed. The standards of accuracy and refinement in topographic surveying have been constantly raised by the topographic engineers, with the view of meeting adequately every use to which the resulting maps can be put. The law provides for the sale of the United States Geological Survey maps at the